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     (FILE 'HOME' ENTERED AT 13:24:53 ON 17 JAN 2008)
     FILE 'CA' ENTERED AT 13:25:01 ON 17 JAN 2008
L1  18408 S (CAPTUR? OR TRAP? OR CONFIN?)(6A)(PARTICLE OR MICROPARTICLE OR
             NANOPARTICLE OR BEAD OR MICROBEAD OR NANOBEAD OR MICROBALL OR
             MICROSPHERE OR NANOBALL OR NANOSPHERE OR PARTICULATE OR
             MICROPARTICULATE OR NANOPARTICULATE)
L2  45043 S (COLLECT? OR EXTRACT? OR FILTER? OR CATCH? OR SNARE OR FUNNEL OR
             RESTRAIN? OR HOLD OR POCKET)(6A)(PARTICLE OR MICROPARTICLE OR
             NANOPARTICLE OR BEAD OR MICROBEAD OR NANOBEAD OR MICROBALL OR
             MICROSPHERE OR NANOBALL OR NANOSPHERE OR PARTICULATE OR
             MICROPARTICULATE OR NANOPARTICULATE)
L3   1046 S L1-2 AND(MICROFLUID? OR MICRO(W)(FLUID? OR CHANNEL OR MACHIN? OR
             FABRICAT?) OR MICROCHANNEL OR CAPILLARY OR MICROMACHIN? OR
             MICROFABRICAT? OR LAB(2W)CHIP)
L4    549 S L3 AND PY<2003
L5    159 S L3 AND PY<2006 AND PATENT/DT
L6   6476 S L1/TI,ST,IT
L7  14457 S L2/TI,ST,IT
L8    160 S L4 AND L6-7
L9    123 S L8 NOT(AIRBORNE OR EXHAUST)
L10   341 S L4 NOT(AIRBORNE OR EXHAUST)NOT L8
L11    64 S L5 NOT(AIRBORNE OR EXHAUST)NOT L4
L12  5395 S (FUNNEL OR HOLDER OR POCKET OR CONTAINER OR VESSEL OR RECEPTICLE
             OR BARRIER)(4A)(PARTICLE OR MICROPARTICLE OR NANOPARTICLE OR BEAD
             OR MICROBEAD OR NANOBEAD OR MICROBALL OR MICROSPHERE OR NANOBALL
             OR NANOSPHERE OR PARTICULATE OR MICROPARTICULATE OR
             NANOPARTICULATE)
L13    12 S L4-5 AND L12
L14 12684 S (FUNNEL OR HOLDER OR POCKET OR CONTAINER OR VESSEL OR RECEPTICLE
             OR BARRIER)(4A)(MICROFLUID? OR MICRO(W)(FLUID? OR CHANNEL OR
             MACHIN? OR FABRICAT?) OR MICROCHANNEL OR CAPILLARY OR MICROMACHIN?
             OR MICROFABRICAT? OR LAB(2W)CHIP)
L15   493 S L14 AND(PARTICLE OR MICROPARTICLE OR NANOPARTICLE OR BEAD OR
             MICROBEAD OR NANOBEAD OR MICROBALL OR MICROSPHERE OR NANOBALL OR
             NANOSPHERE OR PARTICULATE OR MICROPARTICULATE OR NANOPARTICULATE)
L16   307 S L15 AND PY<2003
L17    75 S L15 AND PY<2006 AND PATENT/DT
L18    54 S L10,L16-17 AND(DNA OR RNA OR SEQUENCING)
L19   246 S L9,L11,L13,L18
L20   238 S L19 NOT (AIR ANALYSIS OR MANURE)
L21   217 S L20 NOT(MASS SPECTRO? OR CAPILLARY ELECTROPHOR? OR NMR OR MRI)
L22   215 S L21 NOT (METAL OXIDE SPHERICAL OR KALMAN FILTER)
L23   197 S L22 NOT(NANOTUBE OR DUST OR AEROSOL OR GAS BORNE)
L24   195 S L23 NOT ALPHA PARTICLE

=> d bib,ab l24 1-195

L24  ANSWER 121 OF 195  CA  COPYRIGHT 2008 ACS on STN
AN   134:159569  CA
TI   Utilization of bead based reagents in microfluidic systems
AU   Oleschuk, Richard D.; Jemere, Abebaw B.; Shultz-Lockyear, Loranelle L.;
     Fajuyigbe, Festus; Harrison, D. Jed
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CS Department of Chemistry, University of Alberta, Edmonton, AB, T6G 2G2, Can.

SO Micro Total Analysis Systems 2000, Proceedings of the μTAS Symposium, 4th, Enschede, Netherlands, May 14-18, 2000 (**2000**), 11-14. Editor(s): Van den Berg, Albert; Olthuis, W.; Bergveld, Piet. Publisher: Kluwer Academic Publishers, Dordrecht, Neth.

AB We have developed a facile method of **trapping**, rapidly exchanging, and utilizing **beads** within **microfluidic** devices. A two mask photolithog. and etching process is used to construct micro-weirs in a device substrate. The weirs act to retain the reagent-laden beads while allowing soln. to flow over them. The capability of retaining beads within **microfluidic** devices has allowed us to develop on-chip **bead**-based solid phase **extn.**, electrochromatog. and immunoassay.

L24 ANSWER 129 OF 195 CA COPYRIGHT 2008 ACS on STN
AN 133:251297 CA
TI **Micromachined** flow-through **filter**-chamber for chemical reactions on **beads**
AU Andersson, H.; van der Wijngaart, W.; Enoksson, P.; Stemme, G.
CS Instrumentation Laboratory, Royal Institute of Technology, Stockholm, 100 44, Swed.
SO Sensors and Actuators, B: Chemical (**2000**), B67(1-2), 203-208
AB A new flow-through **micromachined** device for chem. reactions on beads has been designed, manufd., and characterized. The device has an uncomplicated planar design and **microfabrication** process. Both nonmagnetic and magnetic **beads** can be **collected** in the reaction chamber without the use of external magnets. The sample flow-through vol. of liq. or gas is adjustable and unlimited. The device is sealed with Pyrex to allow real time optical detection of the chem. reactions. At a const. pressure of 3 kPa at the inlet the flow rate for water is about 3.5 μl/min without **beads** in the **filter** chamber, for all the designs. The smallest reaction chamber has a vol. of 0.5 nl and can **collect** approx. 50 **beads** with a diam. of 5.50 μm. At a const. pressure of 3 kPa at the inlet, the flow rate for water is about 2.0 μl/min when the reaction chamber is completely packed with beads. Hence, the flow rate decreases with about 40% when the reaction chamber is packed with beads. The flow-through **microfluidic** device is not sensitive to gas bubbles, and clogging of the filter is rare and reversible. The beads are easy to remove from the reaction chamber making the **micromachined** flow-through device reusable. A new and simple technique for fluid interconnection is developed.

L24 ANSWER 148 OF 195 CA COPYRIGHT 2008 ACS on STN
AN 128:202621 CA
TI Dielectrophoretic sorting of particles and cells in a microsystem
AU Fiedler, Stefan; Shirley, Stephen G.; Schnelle, Thomas; Fuhr, Gunter
CS Institut fuer Biologie Membranphysiologie, Humboldt Universitat Berlin, Berlin, D-10115, Germany
SO Analytical Chemistry (**1998**), 70(9), 1909-1915
AB There are highly sensitive anal. techniques for probing cellular and

mol. events in very small vols. The development of microtools for effective sample handling and sepn. in such vols. remains a challenge. Most devices developed so far use electrophoretic and chromatog. sepn. methods. Forces generated by AC elec. fields under conditions of neg. dielectrophoresis (DEP) can also be used. Miniaturized electrode arrays are housed in a **microchannel** and driven with high-frequency AC. A laminar liq. flow carries particles past the electrodes. Modification of the AC drive changes the particle trajectories. We have handled latex particles of micrometer size and living mammalian cells in a device which consisted of a planar **funnel** which concd. **particles** from a 1-mm-wide stream to a beam of ~50 μm width, an aligner which narrowed the beam further and acted to break up **particle** aggregates, a field cage **trapping** the **particles**, and a switch directing **particles** into 1 of 2 output channels. The electrodes were made from platinum/titanium and indium/tin oxide (ITO) on glass substrates. Particle concn. and switching could be achieved for linear flow velocities up to ~10 mm/s. The combination of this new method with high-performance optical detection offers prospects for miniaturized flow cytometry.

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STN INTERNATIONAL LOGOFF AT 14:12:29 ON 17 JAN 2008